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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,079	02/12/2002	Stephen B. Pollard	30006806-2	3119

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

SAFAIPOUR, HOUSHANG

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/073,079		POLLARD, STEPHEN B.	
	Examiner		Art Unit	
	Houshang Safaipoor		2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

The claims are objected to because they include reference characters which are not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

Claim Rejections - 35 USC § 112

Claims 15, 16 and 32-47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 15, 16 and 32-47 disclose “an additional illumination source 106a, 106b”. These two sources are neither described in the detailed description of the specification nor shown in any of the drawings provided. Last paragraph of Page 6 of the disclosure mentions a second light source as an option.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-10, 12-14, 17-27 and 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Smitt et al. (U.S. Patent No. 6,295,383).

Regarding claim 1, Smitt et al. discloses an image capture apparatus comprising: a digital camera comprising a detector having a plurality of detection elements; an illumination source configured to emit light which illuminates a document to be captured; a read-out circuit configured to capture a captured image of said document from said detector, said captured image comprising a plurality of data values (fig. 1, col. 4, lines 4-28);

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a memory which accommodates calibration information dependent upon an illumination profile of said light incident upon said document from said illumination source (col. 4, lines 49-59); and

a processor configured to process each of said plurality of data values in said captured image according to said calibration information to produce a final image in which effects of non-uniformity of illumination of said document have been substantially removed (fig. 11, col. 10, line 21 through col. 11, line 5).

Regarding claim 2, Smitt et al. discloses apparatus according to claim 1 wherein said calibration information comprises a plurality of calibration values corresponding to respective data values in said captured image (col. 4, lines 49-67).

Regarding claim 3, Smitt et al. discloses apparatus according to claim 2 wherein each calibration value corresponds to a data value produced by a respective detection element in said detector when capturing an image of a predetermined test sample (col. 4, lines 49-67).

Regarding claim 4, Smitt et al. discloses Apparatus according to claim 2 wherein said calibration values comprise scaling values, each scaling value dependent upon a data value obtained from a detection element when capturing an image of a predetermined test sample (col. 5, lines 1-17).

Regarding claim 5, Smitt et al. discloses apparatus according to claim 2 wherein said captured image comprises one data value for each detection element in said detector and in which said memory stores a calibration value for each of said data values in said captured image (col. 4, lines 49-59).

Regarding claim 6, Smitt et al. discloses apparatus according to claim 2 wherein said memory stores calibration values for a selection of said detection elements and said processor means is configured to interpolate between two or more of said stored calibration values to determine a calibration value for an individual data value in said captured image (col. 4, lines 49-67).

Regarding claim 7, Smitt et al. discloses apparatus according to claim 1 wherein said detector comprises a colour detector comprising at least two sets of detection elements arranged in a predetermined pattern, a first one of said sets of detection elements having a first spectral sensitivity and a second one of said sets having a second, different, spectral sensitivity, said read-out circuit being configured to capture an image of said document which comprises two sets of data values, a first set comprising a plurality of data values obtained from said first detection elements and said second set comprising a plurality of data values obtained from said second set of detection elements, and wherein said memory stores at least two subsets of calibration information, with one sub-set for each of the two parts of the captured image (col. 4, lines 14-67).

Regarding claim 8, Smitt et al. discloses apparatus according to claim 7 wherein which three sets of detection elements are provided, each having a different spectral response and said read-out circuit is configured to capture a third set of data values in addition to said first set of data values and said second set of data values (col. 4, lines 14-67).

Regarding claim 9, Smitt et al. discloses apparatus according to claim 8 wherein said data values defining said first, second and third sets of data values are processed with said calibration

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information prior to colour plane construction of said final image (col. 4 line 49 through col. 5, line 36).

Regarding claim 10, Smitt et al. discloses apparatus according to claim 1 which further includes a low pass filter and wherein said processor passes said calibration information through said low pass filter (col. 5, lines 18-36).

Regarding claim 12, Smitt et al. discloses apparatus according to claim 1 which includes a test document of known colour, and wherein said read-out circuit is configured to capture a test image corresponding to said test document, said processor being configured to determine said calibration information from said test image and store said calibration information in said memory (col. 4, lines 49-59).

Regarding claim 13, Smitt et al. discloses apparatus according to claim 12 wherein said test document comprises an image having a uniform reflectivity and colour (col. 4, lines 49-59).

Regarding claim 14, Smitt et al. discloses apparatus according to claim 1 wherein said processor is arranged to determine an average data value for a detection element in a number of captured images, and to generate calibration values from said average data value (col. 6, lines 12-44).

Regarding claims 17 and 18, arguments analogous to those presented for claim 1 are applicable to claims 17 and 18.

Regarding claim 19, Smitt et al. discloses an image capture apparatus for capturing an image of a document comprising: a digital camera comprising a colour detector having at least two sets of detection elements arranged in a predetermined pattern, a first set of said two sets of

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detection elements having a first spectral sensitivity and a second set of said two sets of detection elements having a second, different non uniform special sensitivity (col. 4, lines 60-67),

an illumination source configured to emit light which illuminates said document to be captured with light having an illumination profile; a read-out circuit configured to capture on image of said document from said detector, said captured image comprising at least two sets of data values, a first set of said data values comprising a plurality of data values obtained from said detection elements of said first set of detector elements and a second set of said data values comprising a plurality of data values obtained from said second set of detection elements a memory which accommodates at least four sub sets of calibration information dependent said illumination profile of said light incident upon said document from said illumination source, with one of said sub-sets for each of said two sets of data values (col. 4, lines 14-48); and

a processor configured to process each of said plurality of data-values in said captured image with said calibration information to produce an image of said documents in which the effects of non-uniformity of said illumination profile have been substantially removed (fig. 11, col. 10 line 21 through col. 11 line 5).

Regarding claim 20, Smitt et al. discloses apparatus according to claim 19 wherein said calibration information comprises a plurality of calibration values corresponding to respective data values in said captured image (col. 4, lines 49-59).

Regarding claim 21, Smitt et al. discloses apparatus according to claim 20 wherein each calibration value corresponds to a data value produced by a respective detection element of said detector when capturing an image of a predetermined test sample (col. 4, lines 49-67).

Regarding claim 22, Smitt et al. discloses apparatus according to claim 20 wherein said calibration values comprise scaling values with each of said scaling values dependent upon a respective data value obtained from a detection element of said camera when capturing an image of a predetermined test sample (col. 5, lines 1-17).

Regarding claim 23, arguments analogous to those presented for claim 5 are applicable to claim 23.

Regarding claim 24, Smitt et al. discloses apparatus according to claim 20 wherein said memory stores calibration values for a fewer than the total number of said detection elements and said processor is configured to interpolate between two or more of said stored calibration values to determine said calibration value for an individual data value in said captured image (col. 6, lines 28-61).

Regarding claim 25, Smitt et al. discloses apparatus according to claim 19, wherein three sets of detection elements are provided, each having a different spectral response and said read-out circuit is configured to capture a third set of data values in addition to said first set of data values and said second set of data values (col. 6, lines 39-61).

Regarding claim 26, Smitt et al. discloses apparatus according to claim 25 wherein said data values defining said first, second and third set of data values are processed with said calibration information prior to colour plane construction of said final image (col. 6, lines 39-61).

Regarding claim 27, Smitt et al. discloses apparatus according to claim 19 which further includes a low pass filter and wherein said processor passes said calibration information through said low-pass filter (col. 5, lines 22-29).

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Regarding claims 29-31, arguments analogous to those presented for claims 12-14 are applicable to claims 29-31 respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smitt et al. (U.S. Patent No. 6,295,383).

Regarding claim 11 and 28, utilization of frequency domain or spatial domain filter as a low pass filter is well known and routinely implemented in the art (Official Notice). Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to use such filters as low pass filter in Smitt's invention.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Houshang Safaipoor whose telephone number is (571)272-7412. The examiner can normally be reached on Mon.-Thurs. from 6:30am to 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles, Sr. can be reached on (571)272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Houshang Safaipoor
Patent Examiner
Art Unit 2627
December 10, 2005


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